I. Amendments to the Specification

Kindly replace paragraph beginning on page number 2, line number 3 with the following rewritten paragraph:

In the past, most overlays were mechanically attached to the wheel. For example, Kapanka, U.S. Patent 3,575,468, teaches the use of a spring retention device wherein a joined annular wire spring provides a plurality of outer cover-engaging segments adapted to be secured to a wheel cover at spaced peripheral portions. A plurality of axial segments interconnect the outer cover engaging segments with outer wheel-engaging segments adapted to engage a groove in the rim of the wheel. Stay et al., U.S. Patent 4,895,415; Patti, U.S. Patent 4,950,036; as well as Hudgins et al., U.S. Patent 5,181,767, teach, alternatively, retention of the wheel cover by providing wheel cover retaining means for releasably coupling to at least one lug stud with appropriate configurations enabling releasable coupling between the retainer and at least one stud. German Patent 2,813,412 also mechanically attaches the overlay to the wheel by utilizing cavities or undercuts in the face of the wheel. Further, German Patent 2,848,790 also teaches mechanical attachment of the wheel cover to the wheel through the use of clamps so that the cover can be removed for the purpose of cleaning.

Kindly replace paragraph beginning on page number 9, line number 17 with the following rewritten paragraph:

The preheated assembly is then placed in a filling station that consists of a clamping fixture having various nests and a foam metering unit. The wheel and cladding assembly enters the filling station with the wheel located outboard face down against the inboard side of the cladding and the pallet on which it travels is engaged by a lower moving

platen that rises and clamps the wheel assembly and associated pallet between the lower and upper platen of the filling station fixture. A first set of nests, that may be made from a variety of materials depending on their function, engages predetermined areas of the cladding and wheel assembly from the bottom so as to conform to substantially the outboard surface of the cladding to support the cladding during the high pressure phase of the foam filling. A center bottom nest generally conforms to the inside diameter of the cladding and axle shaft opening of the wheel to provide a seal thereto. Optionally, a second set of nests independently seal the various turbine openings allowing independent movement to self-locate to the cladding and wheel. The various nests independently engageable, in combination with the steel wheel and cladding, create a mold in which the foam can be injected. A metering unit is used to accurately mix and dispense the two component urethane foam. A nozzle mounted to the top clamp platen engages a fill port in the back side of the wheel to inject the foamable material in the cladding/wheel assembly cavity. The lower and upper platen clamp is held closed for a predetermined time while the foam flows, gels and thereafter fills the cavity. Thereafter the turbine openings, if used, center bottom and valve stem nests are disengaged and the lower and upper platen clamp is released to allow the pallet containing the cladding and wheel assembly to be moved to the next station for curing, and eventual removal from the fixture. A low out of round point is identified on the wheel assembly before it is shipped.

Kindly replace paragraph beginning on page number 14, line number 3 with the following rewritten paragraph:

The annular rim 11 is a fabricated rim constructed of steel, aluminum, or other suitable alloy materials. The annular rim 11 includes an inboard tire bead seat retaining flange 16, an inboard tire bead seat 18, a generally axially extending well 20, and an outboard

tire bead seat 22. The annular rim 11 further includes an opening 19, shown in FIG. 2B, formed therein to accommodate a valve stem (not shown).

Kindly replace paragraph beginning on page number 14, line number 8 with the following rewritten paragraph:

The wheel disc 14 is forged, cast, stamped, or otherwise formed, and is constructed of steel, aluminum, or other suitable alloy materials. The wheel disc 14 includes a generally centrally located wheel mounting surface 24, and an outer annular portion 26 shown in FIG. 2B. The wheel mounting surface 24 is provided with a centrally located pilot aperture 28, and a plurality of lug bolt receiving holes 30. The lug bolt receiving holes 30 receive lug bolts (not shown) for securing the wheel 10 on a vehicle axle (not shown).

Kindly replace paragraph beginning on page number 14, line number 15 with the following rewritten paragraph:

The outboard surface of the wheel disc 14 and the outer surface of the annular rim 11 define an outboard or outer surface 32 of the wheel 10, more clearly shown in FIG. 2B. To assemble the wheel 10, the outer annular portion 26 is positioned against an inner surface 21 of the rim 11, and a weld 38 is provided to join the wheel disc 14 and annular rim 11 together as shown in FIG. 2B. The wheel disc 14 further includes a plurality of turbine openings or decorative windows 40 (five windows being illustrated) that serve to stylize the wheel 10 or in some applications provide the function of cooling the brakes (not shown).

Kindly replace paragraph beginning on page number 15, line number 1 with the following rewritten paragraph:

The wheel cover or overlay 13 in this preferred embodiment is a solid panel of a uniform thickness, preferably a high impact, high-temperature resistant chrome-plated plastic, secured directly to the outboard surface 32 of the wheel 10. The overlay 13, however,

may be made from any type of material. The wheel includes a pair of rim flanges 11a (see FIG. 2B) spaced on opposing sides of the axially extending well 20 over which the standard tire is mounted. The rim flanges 11a circumscribe the wheel disc or web 14 that is welded to the annular rim 11, as is the case of a standard steel wheel, or integrally cast with the disc, as is the case of a cast aluminum wheel.

Kindly replace paragraph beginning on page number 15, line number 9 with the following rewritten paragraph:

As shown in FIGS. 2B and 2C, an inboard surface 42 of the overlay 13 is configured to face the outboard surface 32 of the wheel 10 when assembled. An opposite or outboard surface 44 of the overlay 13 is therefore visible when the overlay 13 is assembled to the wheel 10. The outboard surface 44 of the overlay 13 is adapted to receive a decorative treatment layer 45. Preferably, a bright metal layer is electrochemically plated onto the outboard surface of the overlay 13 so as to contribute a bright appearance that adds an aesthetically pleasing appearance to the wheel 10. A painted surface is also contemplated for some applications. Furthermore, the overlay 13 is preferably formed from a high-impact plastic having an appropriate decorative treatment layer 45 on the outboard surface 44 thereof such that the overlay 13 and its metal plating are highly resistant to the adverse thermal environment of the wheel 10. Alternatively, other high impact and high temperature resistant plastic overlays or overlays made from any convenient material are contemplated. As a result, the metal-plated outboard surface of the overlay 13 can be allowed to redefine the contours of the outboard surface of the wheel 10, while resisting delamination of the metal plating due to heat or other environmental elements. As shown in FIG 2B, the overlay 13 primarily covers that portion of the outboard surface of the wheel 10 formed by the wheel disc

14 inclusive of the rim flange 11c. However, in some applications the overlay does extend to cover the outer lip 11b of the annular rim 11, as shown in FIG. 2D.

Kindly replace paragraph beginning on page number 19, line number 1 with the following rewritten paragraph:

Referring generally to FIGS. 2A through 3B, while the preferred process of assembly 100 teaches the use of an adhesive sealant 50 shown in FIG. 2C applied to the overlay 13 prior to locating the overlay 13 to the wheel 10 to serve the stated purposes, the process may be practiced without the use of the adhesive sealant 50 disclosed in the preferred embodiment or, alternatively, adhesive sealant 50 may be used on the respective mating surfaces of the wheel 10 and overlay 13 around the turbine openings. It is beneficial to apply the adhesive sealant 50 in areas of the wheel/overlay assembly 10, 13 that are known to squeak, and/or be difficult to seal due to manufacturing tolerances or known to be subject to entrapment of dirt, mud and/or water. For example, steel wheels sometimes have a rolled rim flange 11c as shown in FIG. 2B. It is difficult to assure a true surface at the rolled rim flange 11c, and it is generally known that foam 60, best shown in FIG. 2C, will leak in this area. By applying the adhesive sealant 50 around the outer diameter of the wheel prior to filling the wheel/overlay assembly 10, 13 with foam 60, potential leaks are prevented. Further, to prevent squeaks, the sealant bead may be applied to the wheel 10 or overlay 13 and allowed to fully cure before the overlay 13 is applied to the wheel 10. This has been found to be an effective technique to more efficiently prevent squeaks. The rolled rim flange area 11c is frequently the first area to fail during durability testing. The additional holding force of the adhesive sealant 50 improves durability results. The adhesive sealant 50 is also used to create foam 60 flow patterns by directing the foam flow during the filling operation.

Kindly replace paragraph beginning on page number 21, line number 18 with the following rewritten paragraph:

In high volume applications, the wheel/overlay assembly 10, 13 is placed on a palletized line. Individual pallets 71 on the palletized line move independently through a series of operations. The individual pallets 71 are equipped with the independent clamping systems or secondary-clamping systems 72 that hold the wheel 10 in place on the overlay 13.

Kindly replace paragraph beginning on page number 23, line number 6 with the following rewritten paragraph:

The wheel/overlay assembly 10, 13 on a palletized system will undergo the following sequence at the filling station 80, as shown in FIG. 3B. The wheel/overlay assembly 10, 13 and pallet 71 enter the filling station, 134; the secondary clamping system 72 has already been engaged; the pallet 71 is located and engaged by the lower moving platen 82; and the lower moving platen 82 rises with the pallet containing the wheel/overlay assembly to engage the upper platen 84 and clamp the assembly securely, 136, in the filling station fixture of the primary clamping system with the wheel/overlay assembly 10, 13 and the pallet 71 secured between the lower moving platen 82 and the upper platen 84. A first set of nests 96 of the nest system 95 are engaged, 138, as the pallet 71 is clamped between the lower moving platen 82 and upper platen 84 (described in detail below); and a foam injector nozzle 62 seals the fill port and begins to inject the foam, 140, as a result of the fixture being tilted from horizontal, the foam flows to the lowest area of the voids 43 and begins to fill the void from the lowest point towards the highest area of the voids 43. At about 4 seconds, the foam 60 begins to gel. In about 4 seconds the foam 60 liquid starts to foam. The foam 60 begins to expand and fill the voids from the lowest point of the wheel/overlay assembly 10,

13 towards the highest point of the wheel/overlay assembly 10, 13, pushing air out of the voids 43 of the wheel/overlay assembly 10, 13. As the foam flow approaches the upper openings, i.e., turbine openings 40, and center hub opening 49, optionally a second set of nests 97 (also to be described in detail below) of the nest system 95 may engage the wheel/overlay assembly 10, 13, 142, and sequentially seal each of the turbine openings 40 as the foam rises. The second set of nests 97 may optionally be vented so that after the last turbine opening is sealed, the foam completely seals the voids or cavities 43 by venting the air through the vent, 144, in the second set of nests 97. If the cavity 43 is vented through the nesting system 95, it is possible that all nests are applied at the same time so that the air in the cavity is allowed to vent while the foam fills the cavity 43.

Kindly replace paragraph beginning on page number 24, line number 9 with the following rewritten paragraph:

Pressure builds within the cavity 43 between the overlay 13 and the wheel 10 to about 20 psi. The primary clamping system is held closed for about two minutes (note: if the secondary clamping system 72 discussed above is not used, the primary clamping system must remain closed for 8-10 minutes). Thereafter the first set of nests 96 and second set of nests 97 are disengaged, 160, (the nest system can be periodically sprayed with a mold release agent to aid in disengaging the nest system 95 from the wheel/overlay assembly 10, 13) and the primary clamping system opens, 170. The pallet 71 is thereafter unloaded from the fill station and placed on the production line and moved to the next station.

Kindly replace paragraph beginning on page number 24, line number 18 with the following rewritten paragraph:

The newly foamed wheel/overlay assembly 10, 13 rests for 10 to 15 minutes, 180, under light clamping pressure of the secondary clamping system 72 as the foam 60 continues to expand slightly. The wheel/overlay assembly 10, 13 is thereafter unclamped, 190, from the pallet 71 and indexed to a station where the pallet is flipped over so that the wheel/overlay assembly 10, 13 is oriented to have the outboard side of the wheel 10 facing upward, 195. The wheel/overlay assembly 10, 13 is then placed back on the pallet and directed to a station that locates the low point of the wheel/overlay assembly 10, 13, where a sticker is applied to identify the low point, 200, for subsequent handling. A serial identification number is applied, 210, to the wheel/overlay assembly 10, 13, and the wheel/overlay assembly 10, 13 is then inspected and stacked for shipment, 220.

Kindly replace paragraph beginning on page number 25, line number 6 with the following rewritten paragraph:

As stated above, the clamping system of the present invention is described in detail herein with reference to FIGS. 4 and 5. The primary clamping system of the preferred embodiment consists of the upper stationary platen 84 and the lower moving platen 82 of the filling station 80. The primary clamping system provides the necessary holding force during the foam filling steps 140, 150 by moving the lower moving platen 82 towards the upper stationary platen 84 and applying pressure for a predetermined amount of time. The foam is injected into the cavity 43 while the lower moving platen 82 presses the wheel/overlay assembly 10, 13 into the upper stationary platen 84.

Kindly replace paragraph beginning on page number 26, line number 8 with the following rewritten paragraph:

The first set of nests 96 includes bottom nests 96a and a valve stem opening nest 96b. The bottom nests 96a generally conform to the outboard [44] surface 44 of the overlay 13, and seal the hub opening 49 and lug nut openings and their purpose is to support the overlay 13 during the high pressure phase of the foam filling of 140, 150. The bottom nests 96a prevent the overlay 13 from lifting off the wheel 10 when the foam 60 expands. The bottom nests 96a are capable of spanning a significant portion of the overlay 13 without distortion. The bottom nests 96a can be manufactured using pour-in-place techniques with high durometer silicone, epoxy or urethane, or the bottom nests 96a can be cast or milled out of aluminum or steel. The valve stem opening nest 96b independently engages, allowing independent movement for locating the overlay 13 to the wheel 10.

Kindly replace paragraph beginning on page number 27, line number 4 with the following rewritten paragraph:

The turbine opening nests 97a are made out of a softer durometer material, such as silicone or urethane, to seal the gap between the turbine openings 40a in the overlay 13 and the wheel 10. The gap varies due to offset tolerances between the wheel disc 14 and the ~~wheel~~ annular rim 11. The center bottom nest 96a must also accommodate these variations. Thus, a softer nest material, that can be compressed in an axial direction against the wheel 10 and expand radially creating a seal between the overlay 13 and the wheel 10, is used. Not all wheel designs will require a nest in this area because the seal may, alternatively, be accomplished by applying a bead of adhesive sealant 50 between the overlay 13 and the wheel 10 about the inner diameter 47 or turbine openings.

Kindly replace paragraph beginning on page number 27, line number 13 with the following rewritten paragraph:

If optional nests are used, these nests are also used to aid venting by engaging in a predetermined sequence at a predetermined time combined with the turbine opening nests 97a after the first set of lower nests 96 engage. Venting is necessary to ensure uniform foam flow and adequate foam quantity as the platens 82, 84 are closed. The first set of nests 96 initially seal all of the gaps between the overlay 13 and the wheel 10 except for the inner diameter 47. As the liquid foam 60 is injected into the cavity 43 between the overlay 13 and the wheel 10, it circulates around the void or cavity 43 towards the outer diameter 46, begins to gels, and starts to foam in a direction from the lowest point of the void 43 at the outer diameter 46 towards the inner diameter 47. As the foam 60 advances toward the inner diameter 47, the air in the cavity is forced out of the aperture of the inner diameter 47 and the pilot aperture 28 as well as the turbine openings of the wheel. If the optional turbine opening nests are used, as the foam 60 nears each of the turbine openings each opening is sealed individually until the foam approaches the inner diameter 47. The pilot aperture 28 and lug bolt receiving holes 30 are thereafter sealed with the bottom nests 96a that are timed to engage and seal this final area to be filled, 144. This same venting technique can be used with other nests to meet various design conditions. Alternatively, the vents may be contained within the individual nests so that the cavity can properly vent even if all of the nests are applied at once to define the cavity.

Kindly replace paragraph beginning on page number 28, line number 12 with the following rewritten paragraph:

In another embodiment of the present invention, best shown in FIG. 6, the bottom nests 96a can be configured to positively locate in the pilot aperture 28 of the wheel hub or the lug bolt receiving holes 30. This can be done by using tapered hardened steel pins

98 in the pilot aperture 28 of the hub or a series of steel pins 98 are placed in the lug bolt receiving holes 30.

Kindly replace paragraph beginning on page number 28, line number 17 with the following rewritten paragraph:

The foam metering unit 90 shown in FIG. 5 is employed to accurately dispense the foam 60. Generally, the foam 60 consists of two components. The foam metering unit 90 includes a control panel 91, polyol and isocyanate mix tanks 92, hydraulic pump 93a, material feed lines, and the high pressure dispensing head and foam injector nozzle 62 (shown in FIG. 4). The metering unit 90 can accommodate multiple filling stations 80 as shown in FIG. 4.

Kindly replace paragraph beginning on page number 29, line number 1 with the following rewritten paragraph:

In one variant of the present invention, the high pressure dispensing head/foam injector nozzle 62 is mounted on the upper stationary platen 84. The foam injector nozzle 62 engages a fill port aligned with the foam injector nozzle 62 in the wheel 10. Liquid foam is injected through the fill port into the wheel/overlay assembly 10, 13 and cavity 43 as earlier set forth.